

Application No. 09/903,174
Amendment dated March 2, 2005
Reply to Final Office Action of December 2, 2004

Docket No. 1232-4735

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Amendments to the Claims:

Claims 41-51 are pending in this application. Claims 41 and 51 are independent.

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1-40 (CANCELLED):

41 (CURRENTLY AMENDED): An image sensing apparatus comprising:

an image sensor;

a shielding member capable of shielding a light to said image sensor from an object;

a storage area adapted to store first signals for at least two frames independently, wherein the first signals are generated by said image sensor when a light to said image sensor from the object is shielded by said shielding member;

a first controller adapted to repeatedly overwrite new first signals on the first signals in said storage area of the at least two frames in a predetermined an alternative order;

a second controller adapted to stop overwriting a new first signal in the storage area when a capturing operation of a second signal is designated, wherein the second signal is generated by said image sensor when a light to said image sensor from the object is not shielded by said shielding member; and

a correction unit adapted to correct the second signal based on the a most recent first signal that has been completely stored for one frame with a complete frame in said storage area before the capturing operation of the second signal is initiated.

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42 (PREVIOUSLY PRESENTED): The apparatus according to claim 41, wherein whenever overwriting a new first signal for one frame generated by said image sensor on the first signal in said storage area, said first controller switches storage areas of the first signals on which the new first signal is to be overwritten.

43 (PREVIOUSLY PRESENTED): The apparatus according to claim 41, wherein said first controller overwrites new first signals generated by said image sensor on the first signals in said storage area at a predetermined time interval in a photographing preparation state.

44 (PREVIOUSLY PRESENTED): The apparatus according to claim 41, wherein said first controller overwrites new signals generated by said image sensor on the first signals in said storage area at a predetermined time interval.

45 (PREVIOUSLY PRESENTED): The apparatus according to claim 41, wherein said correction unit subtracts the first signal stored in said storage area from the second signal.

46 (PREVIOUSLY PRESENTED): The apparatus according to claim 41, wherein said first controller allows storage of the second signal into said storage area in continuous photographing.

47 (PREVIOUSLY PRESENTED): The apparatus according to claim 41, wherein said first controller allows storage of the second signal into said storage area.

48 (PREVIOUSLY PRESENTED): The apparatus according to claim 41, wherein the first signal generated by said image sensor contains a dark current noise component.

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49 (PREVIOUSLY PRESENTED): The apparatus according to claim 48, wherein said first controller has a function of controlling the time of storage of electric charge to said image sensor during which a dark current noise component is acquired.

50 (PREVIOUSLY PRESENTED): The apparatus according to claim 49, wherein said correction unit corrects the second signal based on a noise component stored in said storage area and the time of storage of electric charge to said image sensor during which the noise component is acquired.

51 (CURRENTLY AMENDED): A method of controlling an image sensing apparatus having an image sensor, a shielding member capable of shielding a light to the image sensor from an object, and a storage area adapted to store first signals for at least two frames independently, wherein the first signals are generated by the image sensor when a light to the image sensor from the object is shielded by the shielding member, the method comprising:

a first control step of repeatedly overwriting new first signals ~~on the first signals~~ in the storage area of the at least two frames in a predetermined in an alternative order,

a second control step of stopping overwriting a new first signal in the storage area when a capturing operation of a second signal is designated, wherein the second signal is generated by the image sensor when a light to said image sensor from the object is not shielded by the shielding member; and

a correction step of correcting the second signal based on ~~the~~ a most recent first signal that has been completely stored ~~for one frame~~ with a complete frame in the storage area before the capturing operation of the second signal is initiated.